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GLEANINGS IN BEE CULTURE

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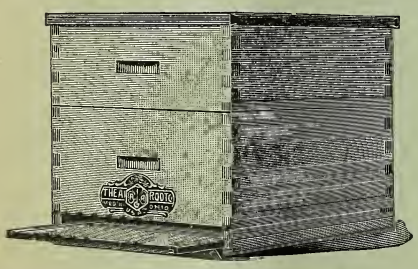

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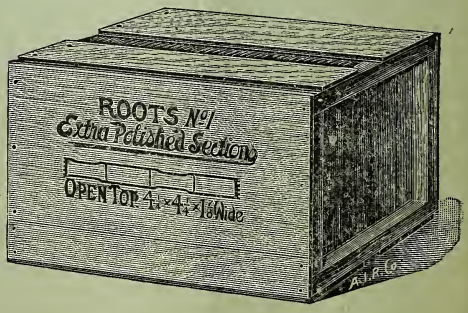

The A. I. ROOT Company,

144 East Erie St., CHICAGO, ILL.

GLEANINGS IN BEE CULTURE

A JOURNAL DEVOTED TO BEES AND HONEY AND HOME INTERESTS

ILLUSTRATED SEMI-MONTHLY

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Vol. XXXII. SEPT. 15, 1904. No. 18

I'M THANKFUL to say that the lame back mentioned last time is now in good repair. What a nice thing it is to be able to get up and down like other people, and to turn over in bed without making faces! [We are very glad, doctor, that you are now better, and that it was nothing worse than a lame back. —ED.]

CROWED too soon! Two weeks ago I said a queen less than a day old would be accepted anywhere. Since then I've lost three, dropping each into a nucleus at time of removing laying queen. Other cases of the same kind have worked all right; also two full colonies with laying workers. [In a regular queen-rearing yard one will see several cases of this kind, although it is a rule that young virgins are usually accepted without trouble. —ED.]

FURTHER EXPERIENCE with baby nuclei makes me less satisfied with no brood and just a few bees. Sometimes it's all right, but too many times the queens are a long, long time without laying, or turn up missing. My apologies to ye editor. [As I have before stated, we have succeeded very well with these baby nuclei without brood; but experience has taught me, at least, that bees do better with brood in any hive than without. If an expert like Mr. Pratt can operate these miniature hives without brood it does not follow that the beginner could do likewise. The reason I advocated the use of brood was because I believed that the reader needed every favoring condition. —ED.]

A DISCOURAGED young friend who has foul brood wants me to say here whether it's best to give it up or make a fight. It all depends. If you love the business — as you say you do — make the fight by all means. If foul brood should attack my bees — it's within 12 miles of me — I'd take a certain grim pleasure in seeing how well I could keep the fell disease at bay; and I don't believe it need interfere such a great deal with getting regular crops of honey. Indeed, the treatment of foul brood is much the same as making shaken swarms, and shaking each colony is much the same as treating each colony. A genuine bee-keeper give up for foul brood? Never! [*Hear! hear!*—ED.]

STENOG says, page 836, "Who has ever made a quotation on propolis by the pound?" Who has ever made an offer? If a fair price is offered I think I can furnish a few pounds when sections are scraped. [A gentleman connected with the manufacture of some kind of shoe-polish called me out of the convention of the National Bee-keepers' Association that was in session in Chicago some two or three years ago, and asked me if I could get for him some propolis by the pound. He said he would be willing to pay a good price. I put an announcement in GLEANINGS, and I think we secured for the party enough to test some of his formulæ on which he was working. I have never heard any thing more, and so I suppose that propolis is either too expensive or was not adapted to the purpose. If any one is in position to give us information we shall be glad to hear from him.—ED.]

TWO MEN, both of them careful observers, give us different times for the development of a queen. Doolittle says 16 days, p. 838; T. W. Cowan says 15, British Bee-keepers' Guide Book, p. 10. Is it a difference in locality? Mr. Cowan would no doubt have good ground for his view, seeing it has stood for years in a text-book of wide circulation; and seeing that, previously, 16 days was the shortest time given. He would hardly want to butt his head against all previous authority without having it padded with well-ascertained facts. In this connection it is interesting to recall that, only about forty years ago, the accepted time was between 17 and 18 days. See *American Bee Journal*, Vol. I., page 199. [Doolittle's article, if you read it carefully, harmonizes, I think, very nicely the statements made by different

authorities; for you will remember he says that the time of incubation, if I may use the term, depends on conditions, for he found there were some variations, and that those variations were due to certain conditions.—ED.]

MR. WM. .M WHITNEY makes a good fight against priority rights, page 847. Far enough back it would probably have been objected that no one had exclusive right to land; yet it has come about that a good bit of land is now exclusive property, and prior occupation has figured no little in deciding possession. If the greatest good to the greatest number is to be considered, should there not be some way by which a bee-keeper could feel as secure as a stock-raiser in occupying a certain territory, so that the public could be sure that the nectar should not go to waste? What inducement is there for you, friend Whitney, to invest money in a plant if you know that next year there is a likelihood that a similar plant will be located on each of the four sides about you, so that little nectar will be left for you? I wonder now if you and I couldn't make some such compromise as this: Let government take possession of all the bee territory, just as it did of the land, and by some equitable means dispose of it so that bee-keeping may be a stable business without making any appeal to priority rights. Or have you something better to propose?

A CALIFORNIA CORRESPONDENT ordered a queen, and says, "The queen arrived Sunday evening. I called Monday evening, and the ants had eaten queen and bees Sunday night. Now, is the postmaster responsible for the loss of the queen?" That's a question in law rather than bee-keeping: If the postmaster were in the habit of receiving mail matter liable to attack from ants, which he took care to protect from them, and neglected that care in this case, he ought to be willing to stand the loss. If he knew nothing of the danger, he was not to blame. The editor knows more law than this scribbler. What does he say? [Uncle Sam, in consideration of the low rate at which he transmits ordinary mail matter, does not guarantee safe arrival, nor indemnity against injury, unless the package is registered, and even then the indemnity is limited to $25. In the case under consideration, no recovery could be secured, in my opinion, even if the queen had been registered. The average queen-breeder guarantees safe arrival so that the loss in this case would fall on the breeder and no one else. Neither Uncle Sam nor his officials are supposed to know any thing about queen-bees. That they are admitted into the mails at all, breeder and consignee taking their own chances, is as much as we can expect.—ED.]

WHEN A COLONY is made queenless, "the bees at the start take larvæ of the right age, but later on keep on building cells for larvæ that are too old," says the editor, p. 835. Exactly what they do here, and exactly what I've said. What I've been trying to squelch, and what has been upheld by some good men, is the libel on the good sense of the bees, which says, "When a colony is made queenless the bees are in such haste to rear a successor that they select larvæ too old for good queens." I have never hinted that they would not use too old larvæ when no better were to be had, and I have stated as a trouble with the Alley plan, that, when the bees did not at the start use all the material given, they would later on start cells when the larvæ were too old. The question is, "Will the bees, of choice, select too old larvæ?" not, "Will they use too old larvæ when nothing better is to be had?" If it were not asking too much, I'd like to have you try this experiment: Unqueen a colony, and, five days later, give it a frame of young brood, and see if further cells are started on the old brood. But I know a trick worth two of that, which I have used successfully right straight along. Keep your breeding queen in a nucleus with one or two frames of brood, and bees enough to cover as many more. Give successively frames with slight starters, and, when nearly built out, or more than half built out, and filled by the queen, take and give to a colony from which one comb with the queen has just been removed. You know the preference the bees have for cell-building on new soft comb, so the cells will be nearly all started on this new comb — scarcely a cell on any other — I had 40 cells started on one such comb. Now, I can't tell you why, but the important point in the case is that the bees do all their starting at the beginning, and no cells are started when young larvæ are no longer present. Possibly the explanation is this: The bees find this beautiful soft comb so much to their taste, so easy to handle for cell-building, that they start at once all the cells they desire, and have no wish to start any later. *Is there any proof that bees, of choice, select larvæ too old when younger larvæ are present?* [These questions will be referred to our men in the bee-yard, with instructions to carry out the experiment and report in GLEANINGS.—ED.]

The use of javelle water in case of stinging is recommended by several French journals. One editor says the objection to outward applications is that the remedy can not be applied to the virus itself, which is under the skin; and yet he says this remedy seems to be an exception in his experience. Javelle water is a chlorinated solution of potash, and can be obtained, doubtless, at any drugstore very cheaply. It is a power-

ful antiseptic, and good to have in the house in case of stinging by ivy or nettles.

♛

It is the custom in many parts of France, according to *Gazette Apicole*, when a farmer dies, to stop all kinds of work and activity on the place as much as possible, even the horses being given a rest. It is believed that bad luck will follow if some such respect is not paid to the defunct. If he was a bee-keeper, it is customary, in some parts, to strike on the hive three times, and tell the bees that such a one is dead. In the valley of the Hem they use this formula: "Awake, little creatures of the good God. A great misfortune has just happened. Your master is dead." After the burial the bees are informed of it, which are then at liberty to pursue their wonted work. Such a superstition is mild when compared with some that were rife in England in old times, one writer in Butler's Feminine Monarchy, printed in 1609, telling with all seriousness how the bees built an altar and celebrated the Lord's supper.

♛

I have thought at times that enough had been said regarding the use of honey for food; but as new evidence is coming in all the time, especially from Europe, that honey is worthy of all that has been said in its favor, perhaps it is best to keep the matter before the world for some time yet. I should like to read the honey reports about three months after the benefits of honey as a food could be made known to the world. The price would rise, no doubt. The following is from the pen of the eminent Dr. Sangrado, and first appeared, I believe, in *Abeille Bourguignonne:*

Sugar constitutes, together with meat and fat, an indispensable food for the maintenance of the normal equilibrium of health. It is necessary to eat these three articles in order to be well, while waiting for the ideal dishes the chemists have so long promised us.

Up to the present time we have only milk as a complete food—that is, including the three substances mentioned as being necessary for a daily ration. Sugar is represented to a great extent in fruits, except that kind which we use to sweeten coffee. One gets but little of it from vegetables. It exists extensively in meats; but the quantity which one thus assimilates is quite insufficient.

In winter one has at his disposal, as sugared dishes, nothing but pastry, canned stuffs, and honey. Pastry is very indigestible, and can not serve as a regular food. Then there remain canned stuffs and honey. The first are but slightly valued, and justly. As for honey, it seems to me its usage is rather limited, and that is a great pity, for it is a food and a medicament of the first rank. Many people, especially in the country, might own, without any great expense or pains, a hive of bees.

Honey includes, in large quantity, sugar in conjunction with other food substances in a form eminently easy to digest and assimilate. It does not irritate the stomach, and passes through it rapidly, for it is not digested by that organ, but rather by the intestines, as are all the sugars. Thanks to the properties in it, it is easily assimilated by the intestines without overloading them for any undue length of time, as is the case with certain ripe fruits. Besides, it is very nutritious, and nearly every particle of its own weight is assimilable. I say nothing as to its taste. Each one can settle that for himself.

Honey is a medicament which can be used for various purposes. Dyspeptics, whose real treatment consists in a strict food regimen, should use it as a dessert in place of cakes, fruits, and nuts, such as almonds.

Honey has still one more advantage, which is that it acts as a mild laxative, and that is a valuable property for habitual constipation, which gives rise to many disorders.

Without doubt it is owing to this double action that honey owes its reputation as a narcotic. Hence it may be recommened for sleeplessness. Two spoonfuls of honey in a glass of water will suffice to induce sound sleep all night.

It is probable that honey, in such cases, serves to displace indigestible foods, which, retained in the stomach, disturb our nightly rest.

That is not all. Honey mixed with water serves as an excellent gargle, having, besides, the merit of being very agreeable to the taste, either swallowed by accident or on purpose, for honey mingled with water is delicious; and the ancient Gauls thought such a beverage was the drink of the gods, and termed it hydromel.

PREPARING FOR WINTER.

"What! preparing your bees for winter so early, Doolittle?"

"I thought I would pack and get a few ready along as I had time, Mr. Brown. There is no prospect of any more surplus honey this year, and, as I have all my sections off, it will be better to get the bees ready for winter now than to wait longer about the matter."

"Why? I thought November or the first of December was early enough to do this work."

"Well, it is better to do it then than not at all; but disturbing the bees thus late in the season is not conducive to good wintering."

"Why not?"

"On the first cold weather in October the bees form their cluster for winter, and go into a partially quiescent state after having surrounded the cluster with honey near at hand, so it is within easy reach of them, and all disturbing of the hive after that causes them to break cluster and go into an unnatural excitement that tends to throw them out of their normal condition. But were this not so, why should the packing of bees and preparing them for winter be put off till the cold, snowy, or sloppy weather of early winter?"

"I do not know that I can give any good reason, come to think of it seriously, and I believe you are right in getting them ready as soon as the honey harvest is past and the supers are off the hives—at least I will try a part of mine that way as soon as I get home. I see you do not pack very heavily."

"No. I learned some years ago that two to three inches of packing proved better than more."

"Why should that be? Would not six inches of chaff or sawdust keep out more cold than two or three?"

"That would look reasonable; and if the packing kept dry I presume the thicker amount would answer as well. But a large

amount of packing seems to get damp, so that the sun does not warm it up and dry it out, as does less, and so the walls to the hive remain cold and damp—yes, ofttimes almost wet—and the bees do not seem to do as well on this account as they do where a little more cold works through in extremely cold weather, and the sun warms and dries things out whenever it shines."

"Have you any special means of allowing the bees to pass through the combs?"

"No. Do you think any such thing is necessary?"

"I think so. Have you never noticed after a cold snap in the fall that there will be little clusters of bees, from three to twenty or more, dead between the combs outside of the main cluster?"

"Yes, sometimes. What do you think makes this state of affairs?"

"I reason like this: On the first cold spell the cluster of bees is obliged to contract in order to maintain the necessary degree of heat required; and in doing so those occupying the outer ranges of comb, being in a sluggish state from the influence of the cold, fail to pass up and around the combs quick enough to keep up with the receding cluster, hence are left to perish with the cold."

"Reasoning thus, what do you do?"

"To obviate this loss I have what I call 'winter-passageways' through the center of the combs. You know that, in old box-hive times, when bees rarely if ever died in winter, they used cross-sticks in the center of the hive to give the bees an extra attachment for their combs."

"Yes."

"Well, the bees always left holes around these sticks, and that gave these outside bees a chance to draw up with the cluster, through these holes, and hence bees wintered better in those days. To make a movable-comb hive something like those old box hives used to be, I make holes through the center of the combs each fall, so that the bees can crawl through, and I have had my bees winter better than of yore."

"You have got on to the old idea of some 25 years ago, when the makers of hives used to put a curled shaving on a strip of tin long enough to bring the shaving about to the center of the frame, when the upper end was fastened to the under side of the top-bar of the frame. But, so far as I know, few, if any, of our most advanced apiarists use those things now."

"Why don't they use them?"

"Because they do not think them of any special advantage, nor believe that those little clusters of dead bees are of any value."

"Of no value? If they are of no value, what bees are of value, pray tell?"

"Bees that have vitality enough to go around the combs with the rest of the bees which go."

"Do you mean to say that the reason these bees are caught away from the main cluster in these little clusters of from three to twenty is because they do not have vitality enough to winter over?"

"That is just what many of our bee-keepers think."

"What reason have they for thinking so?"

"I do not know that I have ever asked others for their reasons; but my reason for so thinking is that, when this old idea was at its height, a quarter of a century ago, I was infatuated with it, and bored holes in the side of my hives, fixing a little door over the same, when every fall I would open these doors, as soon as all comb-building was through for the season, and before the bees formed their cluster for winter, and insert a square stick with a sharp point, and slowly worm this stick through to the back side of the hive, when, after the bees had cleaned it out, I had a hole through every comb in the hive, just where I wanted it, right in the center."

"Well, I declare! that was a novel way of doing it. And after this you think such a procedure of no value?"

"I do so think; for when the combs were so fixed I found that these little clusters of dead bees would be on the combs just the same, and I actually found clusters of them with the bees within less than half of an inch of these holes."

"That seems strange to me. How did you account for it?"

"After a little watching I found that such death of bees rarely occurred except during the first heavy freeze each fall, and this led me to investigate the matter closely, said investigation proving to my mind that the bees died from lack of vitality, or old age, rather than from not being able to keep up with the cluster by being chilled."

"I do not see it yet."

"Usually we have much cool cloudy weather two to four weeks before the first severe cold, so that old bees do not leave the hive to any extent to die, as they do all through the summer months, so that the number of dead bees dying from this cause would be considerable, providing none were chilled. But instead of dying at once, at this time of the year, these old bees seem to linger along through the dormancy of the bees at this time of the year, and so gather in these little clusters, where they remain in a half-dormant state till caught by the extreme cold, or a warm time comes when a chance is offered for a flight. If a flight occurs, I have often found them clinging about on old boards, fences, corners of the hives, etc., and I presume, if you will think, you have seen the same."

"Yes, I do remember seeing such things, but I had no idea that these nearly dead bees, sticking to every thing, were those I would find dead after a cold snap in late fall or early winter, if no flight had occurred."

"Then another thing. I noticed that, where a cold snap came immediately after the bees had had a flight, there would be scarcely a bee caught away from the main cluster, this showing also that those caught at any other time were too nearly gone with old age to keep up with the cluster. For these reasons I left off making holes through

my combs, for it was not only quite a job to make these holes, but a worse part was that the bees would fill them up every summer, and with drone size of cells at that. This would cause a lot of drones to be reared when and where I did not want them."

"Well, I am glad to have had this talk with you; and, while not thoroughly convinced that you are right, I shall keep watch of the matter; and if time proves that you are, it will be of value to me."

INTRODUCTION.

The loss to the bee-keeping world by the death of Mr. Morehouse can be appreciated by any one who has read his writings, but much more so by those who have known him more intimately. I had not often had the pleasure of meeting him, but I have had considerable correspondence with him, and from this as well as from his published writings I had learned to appreciate his sterling worth and his clear insight into bee-keeping matters that, if he had been spared, would have made him even more of a power in apicultural circles.

It is with much reluctance and diffidence that I pick up the pen that has been removed from his grasp by the Ruler of all. So high a standard has been set that I fear my inability to reach it satisfactorily. The only way in which I can approach it is through the co-operation of the bee-keepers of the West. I ask your help in all matters pertaining to this department.

I shall be very grateful for any information you can give me in regard to bee-keeping matters, especially crop reports. If there is any thing in which I can serve your interests I shall be glad to do so. This department is for your benefit. Help me make it interesting and valuable to you.

Alfalfa did not yield as well here as common. One of the reasons, in this locality at least, was that the grasshoppers ate the blossoms. Fields that had been a week in bloom did not have as many blossoms on as at first.

If there is one thing more than another in which the average Colorado bee-keeper is wasteful, it is in regard to wax. Many bee-keepers having large numbers of colonies do not save an ounce of wax. A solar extractor, rightly managed, will return a handsome profit in most apiaries.

In a recent number of the *Western Bee Journal* the nonsensical old theory that bees use their stings as trowels to finish capping the honey, and that they inject poison into it to preserve it, is revived; and one would suppose that the editor is only mildly skeptical in regard to it. We should not blame the editors of ordinary papers too severely for their wild stories about honey when such things appear in bee-journals.

Cakes of beeswax usually need a little scraping on the bottom to make them fit for market. Perhaps you do this the way I used to—at ordinary temperatures and with much labor. Lay your cake of wax upside down on the grass in the hot sun until the part exposed to the sun is thoroughly softened, while the rest is still hard. You can then scrape it as deeply as you wish, and do it easily. Do not lay it on a board or the bare ground, or it will get hot where you do not want it to.

Sweet clover has again demonstrated its value as a more reliable honey-plant than alfalfa. The best yields of honey have been in the localities where sweet clover was most abundant. At my home apiary, as well as as at other places, the best work done by the bees throughout the season was immediately after nearly all the alfalfa had been cut.

Yellow sweet clover is being planted quite extensively by some. It is not only earlier, but a more constant bloomer than the white. After the white had nearly all gone to seed, plants of the yellow, growing alongside, were still blooming profusely.

Even in the "arid" West we sometimes suffer from too much water. A few days ago a cloudburst in the hills north of us produced such a flood of water that the ordinary channels could not carry it, and a wide stretch of country was covered with a raging torrent. My out-apiary lay in its track, and the lower part of the hives was filled with a sticky mud, and most of the entrances entirely closed. Several colonies were smothered, and a number badly damaged, while a great deal of fine comb honey was melted down. A neighbor fared even worse, losing nearly all of his bees, about thirty colonies.

The season in this part of Colorado has been very disappointing. The weather has been so cool nearly all of the season that there seemed to be little nectar in the blossoms. Colonies generally were not in good condition at the beginning of the honey season. At the close of fruit-blossoms, nearly all were in fine shape, but they went backward after that.

Bees that were fed regularly fared better; but there was almost no swarming, and only the strongest colonies stored much surplus during the first flow from alfalfa. The

second flow yielded somewhat better, and in some locations very fair crops have been secured. It is too early to speak definitely; but it is my opinion that the honey crop will not be over 75 per cent of that of 1903.

The status of the 4×5 section appears to be that it sells a little more readily, but will not bring any higher price, in most markets at least. The reason it is preferred seems to be that, to many people, it looks larger than it really is in comparison with the regular size, and in this self-deception of the buyer lies its only advantage over the square section. Cases weigh somewhat more; and if 1½ sections are used they are apt to go considerably over the weight required by the grading-rules. To the large producer it is a serious matter to give away a pound or two of honey with each case. Aside from these considerations, I believe it costs me more to produce 4×5 than the regular.

One of our correspondents advises the editor to visit a soap-factory to learn how to cut up candied honey. Perhaps a visit to a brick or tile factory would answer as well. There the clay as it comes from the machine is cut into lengths by a swinging frame, usually made of gas-pipe, with holes drilled at proper intervals through which pass hooks with thumbscrews for adjustment. Over each set of hooks is looped a piece of steel piano wire, kept taut by the thumb-screws. In this way pieces of exact size can be cut very rapidly. No doubt this is on the same principle as the one in use at the Home of the Honey-bees; but I have described it, as some might wish to make one for themselves, which would not be hard.

[It is the same in principle.—ED.]

The bee-keepers of the Plateau Valley, one of our best honey-producing districts, have united with the fruit-growers in an association that seems to have worked very well the past season. Two carloads of bee-keepers' supplies were distributed at very satisfactory prices. A large amount of stock has been subscribed, and buildings are to be erected this winter for warehouses, etc.

The association here has not met with the support among bee-keepers that it has deserved, and it has been necessary to order supplies through the Fruit-growers' Association here. The only objection there could be to co-operating in this way is that here the fruit-growing interests so far overshadow those of bee-keeping that there is little financial benefit to the honey-producer in the union.

Do not use too much smoke in removing honey. Honey is sometimes badly damaged by the undesirable flavor thus given it. Try it by putting a few drops of honey on a board and smoking it a few seconds. Unsealed cells in honey to be extracted will acquire this flavor in the same way. I have heard of large crops of extracted honey that all tasted of smoke, reducing its value materially. Sealed honey will not absorb the smoke so readily, but even that will be affected by too much smoke. Cappings cut from honey that has been smoked much will taste strongly of the smoke, and even the honey drained from them will be flavored. Hot smoke is worse than cold in this respect, and care should be taken not to hold the nozzle of the smoker too close to the honey. Comb honey should always be taken by means of a bee-escape, except in times of great plenty when little smoke is needed.

Now is the time to requeen your colonies. There is a chance for a difference of opinion as to whether it is profitable to requeen all your colonies each year, but this much is certain—that it will pay you well to replace every queen whose colony has been below the average in honey-production. We may add to this every queen that is more than a year old, unless she is an extra good one. If a queen is much above the average I would follow the good old rule of letting the bees supersede her themselves. If your time is valuable, and there is no honey-flow in prospect, you can simply remove the old queen and insert a ripe cell in a cell-protector. Ordinarily it will pay you better to raise your queens in nuclei by some of the modern methods. If you can not do any thing more you should at least give each colony whose queen should be replaced a ripe cell in a cell-protector, this without paying any attention to the old queen. Many of these young queens will be allowed to supersede the old queens. If your queens' wings are clipped, as they should be, you can easily verify their replacement. This method requires little labor, and tends to improvement of stock.

Most bee-keepers and many queen-breeders are not careful enough about breeding for nice comb honey. We all know that white comb honey sells best, and that the watery-looking cappings that some bees make detract very largely from the appearance of the honey. Some seem to imagine that all Italians produce honey that has more or less of this water-soaked appearance. This is not true. Some strains cap their honey almost as white as the black bees. It does not cost any more to produce white honey than the watery-looking stuff, and the difference in selling price may be considerable. It will pay to get a strain of bees that make nice comb honey, and replace every queen whose bees cap their honey so closely.

I got a few queens from one of the most widely advertised breeders, several years ago; but when the bees of this supposedly superior stock began working in the supers I promptly pinched every queen's head. These bees were all right for extracted honey, but they were poor workers for comb honey, and their honey did not look nearly

as nice as that made by the stock I had. This is one of the reasons why it may pay you better to improve your own stock by careful selection than to buy your queens.

Stones on covers have other uses than to keep them from being blown off by the wind, though they are valuable for that, especially at out-apiaries. It is true the bees will stick them fast if they have a chance; but the sticking process requires time, especially in cool weather, and one does not feel easy when he reflects that the apiary he may not see again for a week may have half of the covers blown off.

The best cover for a hive, in my opinion, is a plain flat board. But no matter how well you cleat such a cover, some of them will warp and twist, especially when exposed to the dry air and hot sun of the arid region. In fact, I have never seen a flat cover that would not do so. Cracks in the top of the hive do not conduce to good work in the super, nor to the well being of the colony at other times. It is to avoid these cracks that many use cloths. The cloth keeps the top of the hive tight, and the cover protects the cloth. I prefer not to use the cloth. If a cover twists so that it does not make a good fit, I lay a fifteen or twenty pound stone on it. Obstinate cases may require a stone on each of the raised corners. It takes some work to handle these stones, it is true; but I have never found any satisfactory way to dispense with them. The double cover used by many in Colorado is almost as much of a nuisance as the stones, which do not have to be used on all hives at all times.

Are you going to sell any honey in paper this year? Better try it if you are so situated that you can establish a market for it. Do not say that you can not do it because the demand does not exist. In most places you will have to create the demand, because it will be practically a new article. This is no more than the enterprising dealer in many other lines of business has to do. You can do it, and in the end it will mean an increased demand and a better market for your honey.

Put it in paper bags as late as possible, just so that you can get it to run through your honey-gate. If it is not convenient for you to get the regular Aikin honey-bags, you may be able to find something at your local stores that will answer. Some of the ordinary paper bags are all right, while in others the paper is too porous unless the bags can be placed in a very cold temperature at once after filling, until they are solid. This may be avoided by waxing; but as this requires something of an outfit to do it properly, you would better get the regular honey-bags if you can. If you use the thin paper bags they will probably need an outer wrapper, on which an ordinary honey-label can be pasted.

Let me suggest that, for the grocery trade, you use a size that will retail for 25 cts.; and that, if you are going to retail it yourself, you put up all that you can afford to for a dollar, and make a point of its cheapness as well as convenience. The strong point in favor of the paper package is that the consumer pays practically nothing for the package. The saving to the producer over putting honey in small glass packages, in the way of labor, is also enormous.

THERE seems to be an immense amount of white clover all over the fields. The frequent rains throughout the country have given it a vigorous growth.

THERE are many good hints in the new department in this issue. "Bee-keeping among the Rockies." Mr. Green is going to make a good paragraph-writer.

I EXPECT to be present at the National convention at the Christian Endeavor Hotel, near the World's Fairgrounds, St. Louis, from Sept. 27th to 30th. This will be a big meeting, and an important one. Every bee-keeper who can should come.

SELLING HONEY EARLY.

A REFERENCE to the many reports seems to indicate a scarcity of new honey on the markets. A year ago at this time there was considerable in comparison with what we find now. No doubt many bee-keepers are holding back for better prices. This is all right; but do not wait too long. Take my word for it, if you do not get your honey sold before January, you will rue it. Sometimes honey is allowed to lie in the hands of the commission man a month or six weeks before a buyer is found.

THOSE MINIATURE OR BABY NUCLEI.

THESE are giving splendid results, notwithstanding the nights are quite cool, and the clusters of some of the larger nuclei of the old-fashioned kind have drawn pretty compactly together. Indeed, the bees in the small ones seem to have the advantage over the large ones. The box in which they are confined being very small, it permits them to confine the heat in small compass. The result is that both sides of the two little combs are literally covered with bees, and there are eggs and brood on all four sides; yet the aggregate amount of surface of these two combs is equal to only a third of a Langstroth frame.

We find absolutely no trouble from robbing. The queens are fertilized readily, and, what seems to be apparent, even *more* readily than they are in larger nuclei where there is so much cubic capacity to warm, and where the brood area may be scattered over a large surface. This morning, Sept. 9, when it was quite cool, we opened up several of the little boxes without smoke; and, while the bees were ready to offer attack, those covers came off so easily that the bees very soon accepted the situation, without protest. It is our intention now for next season to discard entirely all standard Langstroth-frame nuclei, and use these little boxes containing two frames that are just the right size so that six of them will go inside of a Langstroth frame.

CLEANING SECTIONS ON WIRE CLOTH; A GOOD POINTER FOR PLAIN SECTIONS.

MR. C. A. OLMSTED, in the *Review*, is credited with the idea of cleaning sections of propolis by rubbing them over a piece of coarse-mesh wire cloth stretched tight over a wooden frame. The cloth cleans every thing except the beeway, where, of course, the wire can not reach it. Does not this argue pretty strongly for the no-beeway section? By the way, it seems to me some one has already spoken of this matter in this columns, but I do not remember when nor where. Will those who have tried it please report?

INTRODUCING WITH THE OLD QUEEN IN THE HIVE; SCENT OF BEES.

I THINK it was Mr. E. T. Abbott, of the *Modern Farmer*, who has for some time been saying that it was not necessary to make a hive queenless two or three days before introducing another queen; to put a queen, as soon as received, into the hive, taking out the old queen at the same operation, or a day later if more convenient. Many facts go to show that Mr. Abbott is right. Indeed, our own experiments indicate that one can keep both queens in the hive at the same time, the old queen to lay right along up to within a few hours of the time when the new queen is to be released. She is then to be taken out, and the other queen will be accepted just as if the old queen had been taken out several days before. Nor is there any thing strange about this. Dr. Phillips has shown that bees recognize each other entirely by the scent. If this is so, it does not make any difference how long the old queen is in the hive, providing there were not two loose at the same time. If the new queen has acquired the scent of the bees of the hive she is just as much a part of the colony, and will be accepted as readily, as though she had been in the hive as long as the old queen. So far as the bees are concerned, they would tolerate both queens; but when the two come together, there is a combat, and the one that is victor is allowed to be the reigning queen. But if the new upstart does not have the same scent as the old queen, then the bees will take a hand in the fracas, balling the new comer. The scent of the bees is very acute—probably as much so as that of a dog, that can trace his master over a pavement that has been walked over by hundreds and possibly thousands of people, the scent of whom is all different.

IS A BICYCLE SUITABLE FOR VISITING OUTYARDS?

A CORRESPONDENT in the *Bee-keepers' Review* says when a man "goes to an outapiary on a bicycle, he has done a good day's work before he gets there." This is not according to my experience, and I therefore judge that the correspondent in question had never ridden a bicycle enough to toughen his muscles to the point where riding is a real pleasure rather than a wearisome exertion. I have ridden repeatedly to our outyards on a bicycle, and have done a good day's work on arriving at the yard. I have sometimes been very tired from working in the yard, feeling as if I could not drag my feet around any more, when, presto! as I got on my machine a new set of muscles were brought into play in a *different way;* and on arriving home it is an actual fact that I felt refreshed and rested. Why don't I go to our outyards now on a bicycle? Because the automobile is quicker, and enables me at the same time to carry along extra stuff.

When I visited Mr. Coggshall, his gang of men were in the habit of going to the outyard on bicycles, and he would go around with a wagon carrying the necessary supplies and bringing back the honey. The boys could do up one yard, and then in a short space of time go to another very much quicker than it would be possible for them to go with a horse, enabling them thereby to accomplish very much more.

Perhaps some of my readers may not understand how it is that, when one is tired, he can do another class of work and become rested. Let me give an illustration:

When my boy and I were doing the St. Louis exposition we found that a slow stroll among the exhibits was very tiring; and sometimes when we had quite a distance to go we found that, by walking briskly, or taking a slow "dog trot," it would bring into play another set of muscles, bringing about a sort of rest that was very agreeable, almost equal to sitting down for a few minutes. The change of work in a bee-yard is so very different from the work of riding a bicycle that one feels rested after a ride.

I said a while ago that perhaps the correspondent for the *Review* had not ridden a bicycle enough to toughen his muscles. I know of quite a number of my friends who have taken up bicycling for two months or so, and abandoned it. Why? Because pushing the machine tired them too much. That was somewhat my experience at the very start; but after one has learned to economize his strength, and has given Nature a chance to rise to the emergency, he finds that what was once an exertion is now a pleasure.

DR. C. C. MILLER AND HIS FAMILY.

I HAVE before told our readers that, if there is any place in this wide world where I feel entirely at home, outside of Medina, it is at the Dr. Miller residence; and I should judge there are some other people who feel the same way. In the *American Bee Journal* for July 14 appear two half-tone reproductions which, by the courtesy of that publication, I am enabled to present here, together with a sketch accompanying:

FOURTH OF JULY AT DR. MILLER'S.

For several years Dr. Miller has extended to us (Mrs. York and the writer) a most cordial invitation to come to Marengo and help eat, fresh from the vine, some of the luscious strawberries that grow on his farm, which is located a mile south of the town.

Finally, we decided to go, and did so on Saturday, July 2, arriving in Marengo about 7 o'clock in the evening. Very shortly after arriving and greeting the members of Dr. Miller's family, we began to eat strawberries. We had them every meal until Monday evening; and then, lest we should too soon lose the "strawberry-eating habit," we brought several boxes of them home with us. We certainly never ate more delicious strawberries.

On Sunday we attended the Presbyterian church and Sunday-school, being members of Dr. Miller's Bible class. In the evening there was a patriotic service, there being also present members of the Grand Army Post and Woman's Relief Corps. The popular pastor, Rev. Mr. Van Page, delivered a fine address appropriate to the occasion. The music by the choir was in excellent keeping with the rest of the service.

All day Monday, the Fourth, we visited and talked bees. We went into the home apiary and opened a few hives, but it was a little too cool to do the best work with the bees.

Dr. Miller had supers on such colonies as were ready for them, a few hives showing three supers each. He had taken off only two supers full of honey. White clover seemed to be in abundance, with white sweet clover just coming into bloom. Previous to the opening of the honey season, the doctor had, all ready to put on the hives, 26,000 sections in supers. His faith seemed to be large. We hope he may have all those sections filled with honey by the end of the season.

DR. C. C. MILLER.

MISS EMMA WILSON.

Dr. Miller's family consists of Mrs. Miller, her sister, Miss Emma M. Wilson, and their beloved mother, Mrs. Wilson, who is 84 years of age. She is a dear old lady, eats her three meals a day, and is as happy and contented as any one could well be. What a benediction is such a person in any home!

On this page are the latest pictures of Dr. Miller and Miss Wilson, the photographs having been taken about two months ago. Especially pleased will be the women of beedom, who receive the *American Bee Journal* regularly, to see the picture of the one of their number who so ably and entertainingly conducts the department of "Our Bee-keeping Sisters" in this journal. We are sure all would be glad to know her better, or to have the privilege, as we have had, of spending a day or two under the same roof with her in Dr. Miller's delightful home. But the next best thing is to have her picture and read her department from week to week.

Dr. Miller holds his 73 years exceedingly well. We only hope that he may be spared to the world yet many years. All beedom does well to hold him in the highest esteem and honor. He deserves it. There are too few like him in the world.

The Miller home is indeed a happy one; and the happiest one, perhaps, of all is the old mother, whose faith in God, in the blessed hereafter, and in the children who surround her, fairly shines forth from her face. Indeed, such people are a benediction to any family. Dr. Miller is fortunate too in having such efficient bee-help in his wife and sister-in-law. There is no friction — every thing seems to work along just like clockwork.

Whenever I am in the vicinity of Chicago I always make it a point to run up to Marengo; and if you were anywhere in the vicinity you would hear enthusiastic conversation,

and every now and then peals of laughter. We very often get into a good-natured argument, and as a general thing Emma is on one side of the fence and I on the other. I don't really know *why*, unless she has not quite forgiven me for quoting the statement of a boy when once I was trying to find the Miller residence. It was late, and I had just wheeled in from Chicago, and I was in doubt where to go. Said the boy, "You just follow this road; and when you come to the place with weeds* and things in front, turn in." Nor has she forgiven me for taking various photos of the Miller hives that had rags stuck in the cracks to stop up the holes. It is but fair to say that at that time Dr. Miller was about to discard his old hives and purchase new, but was not quite clear in his mind as to what kind of hive to adopt, and so he pieced out the holes with some rags. They were very fantastic, and one morning I busied myself with taking various kodak pictures of some of the hives on the sly, intending to put them in GLEANINGS as a good joke on the doctor. Now, Miss Wilson saw me—said I was "not fair to take this mean advantage." So she pulled out the rags, and after she got an armful I turned the kodak on her, taking a couple of shots.

"Now, Mr. Root, don't you *dare* use those pictures in GLEANINGS."

I insisted so strenuously that I would, that I left her very much in doubt of my real purpose until I was about to leave, when I finally promised her they would never see the printed page. I had the pictures developed and printed, and that is as far as I have gone, and they are in my private collection. I suppose I shall get a scolding for even making mention of the rag-bedecked hives; but time and distance protect me.

Laying all nonsense aside, Dr. Miller is to be congratulated in that he has two such able assistants — Mrs. Miller and her sister, Miss Wilson. The doctor has told me that they were rushers, more than equal to two average men. In some classes of work they are very much quicker, and always neater. Indeed, in respect to this last-named quality I think they would much surpass the average woman, and it therefore is no small wonder that they protest at the libel of "weeds and things," and rag hives.

Well, whenever I visit the Miller home I always feel that I am the gainer in bee-lore, even if I do get worsted in the arguments sometimes; and somehow I feel that I am the gainer in spiritual things, for Christ dwells in that home.

* Dr. Miller, like all bee-keepers, is opposed to cutting down sweet clover, goldenrod, and the like. His place was not overgrown with weeds, but the boy's statement furnished the basis for a good joke.

THE NEW YORK PURE-FOOD LAW; TRADING ON THE GOOD NAME OF HONEY.

THE Tenth Annual Report of the Department of Agriculture of New York is before me. In it I find a copy of the New York honey law, which I believe is the most stringent of any law of the kind in any State, but no more stringent than it ought to be. It provides that there shall not only be no glucose mixtures palmed off as pure honey, but that no compound of honey and glucose shall be put out wherein the word "honey" is displayed prominently, and the other ingredients shown up in small type. The other ingredients must have the same prominence. This is the actual text itself:

SEC. 80-b. *Relative to selling a commodity in imitation or semblance of honey.*—No person or persons shall sell, keep for sale, expose or offer for sale, any article or product in imitation or semblance of honey branded as "honey," "liquid or extracted honey," "strained honey," or "pure honey" which is not pure honey. No person or persons, firm, association, company, or corporation, shall manufacture, sell, expose, or offer for sale any compound or mixture branded or labeled as and for honey which shall be made up of honey mixed with any other substance or ingredient. There may be printed on the package containing such compound or mixture a statement giving the ingredients of which it is made; if honey is one of such ingredients it shall be so stated in the same size type as are the other ingredients, but it shall not be sold, exposed for sale, or offered for sale as honey; nor shall such compound or mixture be branded or labeled with the word "honey" in any form other than herein provided; nor shall any product in semblance of honey, whether a mixture or not, be sold, exposed, or offered for sale as honey, or branded or labeled with the word "honey," unless such article is pure honey.

Notwithstanding we have an excellent pure-food law in Ohio, there are mixtures very elaborately labeled, showing the word "honey" in prominently displayed letters. In small inconspicuous wording there appears a statement to the effect that the contents of the jar consist of honey, corn syrup, and certain flavoring extracts. I was surprised to see that quite a little of this "honey" is offered for sale, and more surprised to know it sells. The presumption is that people buy it because of the displayed word "honey," and never stop to read the description in fine print; eat the stuff, are disgusted, and then will not buy *any* honey. The New York law puts a stop to this business, providing the officers whose business it is to enforce the law do their full duty.

KING-BIRDS NOT ENEMIES, BUT FRIENDS.

THE king-bird has generally been regarded as an enemy of the bee, and undoubtedly it does at times destroy virgin queens in queen-rearing yards. I myself have seen one single king-bird catch on the wing six or eight bees within as many minutes. But for all the evidence against it, a correspondent in the *American Bee Journal* believes that chickens kill far more bees than the birds, and then asks, "Why shouldn't we kill off the chickens as well as the birds?" He adduces proof, showing that, out of 281 stomachs of the birds examined by Prof. Beal, only 14 contained the remains of bees, and most of these were drones, while 60 per cent of the king-bird's food was found to consist of injurious insects. One bee-keeper shot a number of king-birds and submitted them to an entomologist, but not a trace of a bee could be found. He urges all who think king-birds are a serious enemy to bees to send a postal card to the Secretary of

Agriculture, Washington, and get Bulletin 54, entitled "Some Common Birds and Their Relation to Agriculture."

SOME FINE POINTS IN QUEEN-REARING.

Flanged vs. Unflanged Cups.

BY SWARTHMORE.

In his footnotes to my remarks on queen-rearing, page 601, June 15, Mr. Phillips brings forward several points in favor of a flanged cup for queen-cells which I should like to accentuate. I have found "by actual experience that the supplying of royal jelly in individual cups for queen-rearing has not only wasted my time but has tried my patience." Any operation that is entirely needless always does this. It is much simpler to spend half an hour on some cool day swabbing the entire lot of new queen-cups, be there 500 or more, and have the job over with for ever. By the royal-jelly plan, unless one is very careful color may be quickly ruined by chill, especially in early spring. We must bear in mind that the thermometer does not always stand at the desired point, therefore we must have methods that will suit all temperatures if bright queens are to be reared by grafting.

Mr. Phillips says: "When one has over a hundred cells to graft at one operation, royal jelly is absolutely necessary or the larvæ will have perished before the finish of the job." Right here is a strong recommendation for flanged cups; for by their use each larva may be immediately placed in the midst of the bees as soon as each cup is grafted, and the bees will at once commence to feed one after the other as received, be there one hundred or one thousand cups to graft. There is no long wait to fill a bar or two before the cups can be given to the bees, as is necessary when the cups are supported by tacks on the under side of a bar or in the middle of a frame. When cups are applied at top, as with the flanged ones, each and every cell will at all times be under perfect control—draw one, two, or all; no bees escape, the cluster is not broken, no smoke is needed, no prying necessary—simply draw your cup or cups or barful, interchange at will, give as the occasion demands, leave as you see fit. With flanged shells one may use the bees which started the cups, to much better advantage than when the cups are placed on the under side of a bar; for, when so placed, half the bees will escape and return to the old stand by the time one gets the hive open, the frame removed, and the lid replaced—unless the bees are stupefied in some way, and this is surely objectionable to many.

Mr. Phillips admits that the bees remove the jelly he places in his cups. Then what, in the name of common sense, is the use of putting it there if the same end can be accomplished by the use of a better plan?

In the matter of protectors Mr. Phillips holds to his rag doll with the statement that it entails but little extra work. Ah! it is these little unnecessary extras that take one's time just at the flood of orders. It would entail but little extra time to wind a string about each cup; but if of no real service, what is the use of doing so? No, bees will *never* tear down a *good* cell if built upon a Swarthmore flanged cup. Furthermore, bees will not build upon and enlarge Swarthmore flanged cells during a honey-flow as they do with the ones applied by tacks on the under side of a bar. Here Mr. Phillips has made a very strong statement in favor of top application (accomplished by the flange) of cups as used successfully in Swarthmore for over four seasons.

The principle of the Swarthmore top-bar application of cups is this: The top-bar of an ordinary brood-frame is dropped down two inches, leaving space above the comb in which to place the cells or the cages; there being no vacant space in the frame, no comb or particles of wax are built or attached about the cells, which makes them at all times perfectly removable from top, either one at a time or by the barful, without disturbance of the brood-nest. Not so when the cells are placed in the middle of a frame. When so placed, space must be left below the cells. This space the bees will quickly fill, building their combs all about the cells, which renders them entirely immovable without a delicate surgical operation. All this takes time, and makes a mess; but the bees can not be blamed, for it is only natural for them to extend their combs to the bottom-bar. If the cells are placed in a Swarthmore holding-frame, all this mess is avoided, and cell-protectors will *never* be needed, for there will never be rupture about the cells.

Mr. Phillips makes the statement that, should he place tack-supported cups in an open frame, as suggested in my criticism, May 15, he would have an arrangement quite as handy as the Swarthmore; but he would not, for the reason that he could not examine, remove, nor inspect one of his cells without removing the bar. Since Mr. Phillips has acknowledged the Swarthmore open frame an improvement, why not go one step further—add a flange and reap all the benefits from the labor-saving qualities of the Swarthmore wooden flanged cup?

If Mr. Phillips is unable to make Swarthmore mating methods work, I am perfectly willing to give any instruction he may need to make the plan as successful in his hands as it has been in others'. It is simply folly to use large frames for mating queens when

a handful of bees in a little box will do the work better.

For Mr. Phillips' information I wish to say that I have had some experience with mating from full frames in different-sized colonies; and I can say that *never* has a queen-cell been torn down by the worker bees unless some rupture has first been made in or about the cell by a queen or a man.

I strengthen my statement: "Queen-cells built upon Swarthmore flanged wooden cups may be placed in *full* colonies *directly queens are removed,* and the virgins hatching from them will be allowed to live and mate, providing the cells do not hatch under twelve hours from the time of removing the laying queens."

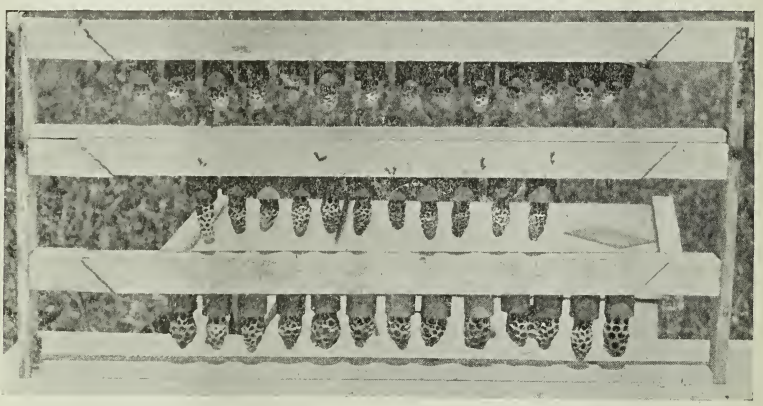
[To this Mr. Geo. W. Phillips, our head apiarist, replies:]

We thank Mr. Pratt for the valuable suggestions which he makes from time to time; but it appears that, to do all he advises, would necessitate the abandoning of our present system of queen-rearing — a system that is entirely simple and satisfactory, and adopting another with which we are ill acquainted.

I am still inclined to think that no method of preparing cells is as good as the old Doolittle mode of grafting. Why persist in talking about temperature being too high or too low for using royal jelly? I repeat my former statement, that any temperature that permits the safe transferring of larvæ permits also the use of royal jelly; and why bespeak its use needless, when, besides its other benefits, a large percentage more of cells will be rejected by its non-use? Mr. Pratt, I believe, does not graft at all, but uses a cell within a cell, the queen laying directly in the smaller one, after which it is removed and placed in position. This, although an improvement, somewhat resembles the Willie Atchley method. But I really believe that the Doolittle method of grafting goes ahead of either — at least I am satisfied that I should prefer it.

The round cell cups can be used the same as the flanged in the connection Mr. Pratt mentions. I have tried giving cells somewhat after the manner he indicated; and at first, fearing they would fall out, I bored my holes but partly through, finishing with a smaller bit, thus leaving a shoulder; but a little use convinced me that even this was unnecessary, for, boring a clean hole with a bit of the correct size, each cell would remain nicely in position.

The last discussion in GLEANINGS on this subject set me to thinking; and before many days I had found Mr. Huber Root's old model for a cell-frame, and, with a little extra fixing, adopted the illustrated device which I have used with success ever since. It is a regular Hoffman frame containing three cell-bars, as shown in the illustration. The bars are removable and interchangeable. The unsealed cells are on the top-bar, the older ones below, and a slate outside the hive shows the ages of cells within. This frame is taken from the hive only when cells are to be removed; and in grafting, the uppermost bar alone is handled.



THE ROOT CO.'S QUEEN-REARING FRAME WITH REMOVABLE AND INTERCHANGEABLE CELL-BARS.

As stated before, I had already tried Mr. Pratt's "baby" nuclei, but was unable to make them work. Now, the system at the time when I tried it was that of fastening the nuclei to a full colony with normal laying queen, the workers having access to all the compartments. That, I believe, was the plan that Messrs. Hooper Bros. and G. M. Doolittle tried also, and a better means of getting rid of virgin queens has not yet been described. But the Pratt system is different now, and I wish to confess frankly that I like the miniature nuclei well; and should it be my good fortune to devote one more summer of my life to queen-rearing, I have no reason to doubt that I shall have occasion to bless the "babies," and bless their "papa" too. G. W. P.

Medina, O.

[The two methods of queen-rearing are very much alike in the main principles, but differ in detail. Mr. Pratt uses a flanged wooden cup having *inside of it another wooden cup* in which the queen lays the egg. Here, it seems to us, is a complication "like a wheel within a wheel." Our people use a plain plug without any flange, having a hole bored in one end. This plug, instead of being held in position by means of a flange, is secured by a nailpoint. We sell these wooden cups by the barrel, and if we were to make the double-flange cups of the Swarthmore pattern we should have to charge the bee-keepers of the country a much higher price, and we can see no apparent gain to be secured.

While Mr. Pratt has queens lay in his cups, the inner one, yet he must remove these wooden cells from their fastening where the queen found them, and then insert them in the flanged cup — an operation that will take fully as long, even if the two fit nicely, as the grafting process that we use. In a word, we consider that our outfit is cheaper for the great mass of bee-keepers who must figure to save even the pennies, is simpler to describe, and much simpler to understand and carry into effect.

The photo here shown is simply a sample of our everyday work in the yard. In other words, the picture shows the "proof of the pudding." In saying this, we do not claim that Mr. Pratt is not able to secure equal results by his method.—ED.]

THE COMB-HONEY LIE.

How it Started; the Damage it has Done and is Doing; the Nature of Glucose.

BY W. K. MORRISON.

It would seem as if we were to have a recrudescence of the comb-honey canard in the newspaper press; and if that is the case, the sooner we are up and doing our little toward combatting this pernicious error, the better it will be for all bee-keepers.

The younger generation of bee-keepers may not be aware that the comb-honey-by-machinery canard first saw the light of day in the pages of a semi-scientific paper, the *Popular Science Monthly*. The yarn has been given the widest publicity by the newspapers until it is impossible to estimate the damage done by it to our industry. In any case the injury is very great—far greater than many bee-keepers think possible. Let us examine the canard to see how much there is of a foundation for the thing to rest on; and here let me say some bee-journals are somewhat hazy on the subject. It seems to be taken for granted that the glucose of which this wonderful honey is made bears a great resemblance to honey, and is much cheaper. Neither statement is true. Good glucose, free from all impurities, and fit for table purposes, is quoted at 50 cents per lb. in the catalog of the second largest dealer in the world. The glucose we hear so much about is *artificial* glucose—quite a different thing altogether. It is a disagreeable compound which no one who values his life would eat knowingly. I am not exaggerating at all when I write thus. Five years ago, in Manchester, England, a number of persons lost their lives by drinking beer containing only minute quantities of this same glucose. Now, what would be the result of using it in large quantities, as would be the case in using it as a substitute for honey? In the case of the beer the glucose was converted into caramel, and then used to give "body" to the beer. In the particular case I refer to, at least 30 persons lost their lives in a few weeks by this insidious poison. It was by the merest chance the discovery was made that the poison came from the beer. And this is the principal use to which artificial glucose is put. So beer-drinkers and would-be honey-mixers can take fair warning.

Buffalo, N. Y., and Chicago, Ill., are the centers of the glucose business, making it by synthesis from starch. Eminent chemists tell us that good glucose can be made from starch. Theoretically this is so, probably; but in business practice it is not. These same chemists also tell us they can make honey by artificial means; but when pinned down to it they generally find some excuse for avoiding the practical part of the question.

Sorghum or maple syrup is the nearest approach to honey we know of, hence any bee-keeper can easily decide for himself whether he need be afraid of competition from that source.

I believe syrup-makers, jelly-makers, and bee-keepers have a clear case against the glucose-factories—just as clear as the dairymen had against the oleomargarine-factories. Let *artificial* glucose be branded just as oleo is. I believe, also, that any person offering it as an adulterant should be arrested and imprisoned. Bee-keepers will have to put up a great fight to get this legislation; but people all over the civilized world are stirred up over the matter of adulteration. To get the requisite legislation we must be very clear on all important points, remembering—

Thrice armed is he who hath his quarrel just.

It is not any easier to make a substitute for honey than it is to make butter.

Bee-keepers, and particularly bee-papers, should be careful about what they say or print about this matter. It is too important to be played with. The main point is to compel dealers to sell things for *what they are*.

In the British Islands there is a society which looks after the interests of the cane-sugar producers, and steadily secures prosecutions of grocers who sell customers beet sugar when cane sugar is ordered. I see no reason why the National Bee-keepers' Association could not take up this matter in the same way the sugar-men do in England. A

very simple law would cover the whole question.

Now let me get back to the comb-honey story, pure and simple. It seems almost incredible that intelligent people should believe such an astounding yarn; yet I know that, in the towns and cities of the United States, almost everybody has heard the story and believes it. Probably honey would sell in the United States at European prices if it were not for this pernicious yarn. How to overcome this evil is not easy to tell, but something can be done. When I resided in New York the Brooklyn *Eagle*, one of the greatest of American daily papers, and said to be immensely wealthy, printed the story, with variations. It stated that comb honey was regularly made in Brooklyn, in the neighborhood of a certain street. I thought of getting up a case for myself, and consulted two friends who are eminent lawyers. One was legal counselor to the Manhattan Elevated Railway Co., and the other now occupies a place as a judge in an important New York court. Both said there was little hope of doing any thing, for several reasons, one of which was that the newspapers invariably carried their cases from one court to the next till opponents got wearied with the fighting. Now, the *Eagle* is one of the most reputable of American dailies, and St. Clair McKelway, one of the most prominent ethical writers in the United States, its editor. The article, too, was written by "a very reliable reporter." Now, what can be done? The story keeps spreading. *Chambers' Journal*, one of the oldest and most reputable of English magazines, says comb honey is regularly made by machinery; and *Nature*, the most widely read and probably the best scientific paper in the whole world, says the same thing. It is clear that this story has gone too far. There is a craving for stories of this kind, or papers would not publish them. To illustrate, I have before me a copy of the *Standard Magazine*, in which is an article advising ladies to keep pet animals, and is quite beautifully illustrated; but underneath the first cut of a beautiful specimen of a Scotch fantail pigeon appear the words "Pouter Pigeon," an entirely different sort of bird. Of course, the article is misleading. Pigeon-fanciers will tell you the newspapers constantly confuse two entirely different birds—the carrier pigeon, which never leaves its coop, and the homing and Antwerp, which carry little pellets of tissue paper for hundreds of miles. Dog-fanciers also complain of the newspaper talk about *fierce* bloodhounds, when German mastiffs are meant. It would be a good thing if we could compel newspapers to tell the exact truth, but we can't.

Is there no remedy for this evil, when even so reliable a paper as the *Ladies' Home Journal*, with so great a personage as Dr. Mary E. Walker to stand sponsor, baptizes the comb-honey canard anew? Dr. Walker is, no doubt, an authority on babies; but this one is no baby, for it has gone the rounds of the press for more than 21 years. Does she suppose for one minute the American epicures would eat a horrible mixture of paraffine, glucose, and sulphuric acid? And yet this is precisely what she claims they do. Should she run for the presidency I pray for her defeat. The editor of GLEANINGS says the *Ladies' Home Journal* is all right. So it is; but is it not the same journal which employs Mrs. Rorer, of culinary fame? If so, bee-keepers have no great reason to be proud of said journal. Ladies seem to be nearly as bad as men in misrepresenting us.

Not so long ago, Heinz, the pickle-man of Pittsburgh, sent one of his lady experts to the West Indies to demonstrate the superiority of his specialties. As I knew the Heinz factory long ago I called to hear the lady dilate on the various preparations; but happening to have a beautiful sample of comb honey in my hand she at once challenged me about it, asking me if I had a factory for making the same, telling me there was a factory of the kind in Pittsburgh, and intimating she had actually seen it at work. I got her cornered, however, when I stated I was fairly well acquainted with the Smoky City, and would be glad to be favored with the address of the factory in question. Here she refused to say any more on the subject. But Mr. Heinz would hardly like it if we bee-keepers were to return the compliment.

Why all this misrepresentation of the bee and honey industry? The answer is very simple. All industries, more or less, suffer from misrepresentation by newspapers. Just ask some one engaged in any particular line if his industry does not suffer more or less from this evil. For example, many people in New York believe that eggs are regularly made by machinery. Understanding all this we shall be better able to get a true solution for our dilemma. People read, and read any thing. Bee-keeping is a mysterious business to many. Let us take these people into our confidence.

The A. I. Root Co., G. B. Lewis Co., Falconer Mfg. Co., and all the other makers of sections hold the matter pretty much in their own hands. Let them print a direct refutation of the comb-honey canard on every section they make. Something like this ought to be stated:

> Whereas it has been stated by many newspapers that honey in the comb is being regularly made by machinery, and palmed off on the public as real comb honey, the National Bee-keepers' Association wishes to state that no such thing has ever been done. Furthermore, the said Association offers $1000 for the first sample of artificial honey in the comb. The honey and wax contained in this box are, therefore, fully guaranteed to be the work of bees, and all dealers will be fully protected in court of law if necessary.

Figure to yourself the effect of fifty millions of sections, with this announcement printed thereon. The editor might let us know what it would cost to have this done.

It has always seemed to me that honey should command about the same price as butter; and if it were not for a certain lack of confidence we could get it. It seems,

therefore, worth while to combat erroneous views, even at some expense.

There are also other ways of letting the public know the facts. There ought to be a bee-keepers' exhibition every year in all large cities, just as the poultry-keepers have them. Why not? The commissions on the sales of honey and wax at such an exhibition ought pretty nearly to pay all expenses.

It is largely the fault of the bee-keepers themselves that people believe all the yarns usually told about the bee industry. We have every thing to gain and little to lose by taking the great generous American public into our confidence. Let us toot our own horn in the future, for it seems it would be an idle waste of time to write all the papers that print "the comb-honey yarn"—Sunday papers particularly, as nearly all the matter they print belongs to the realm of romance.

A GROUP OF BIG AND LITTLE HONEY-EATERS; FAMILIES OF O. J. AND J. B. AMES.

HONEY AS A FOOD FOR CHILDREN.

The Region of Oakdale, Central California, as a Bee Country.

BY MRS. J. B. AMES.

Having been a reader of GLEANINGS for many years I have felt from time to time that I should like to tell you how much we appreciate your efforts along the line of securing a more general use of that most healthful food, honey, and the securing of a better life through your Home talks.

Your June 1st issue has articles on several lines of thought which all lead up to one goal which might be summed up as pure food, pure bodies, pure lives. My desire to help humanity to reach this goal gives me courage to send you this picture with this explanation. This is a group of the families of O. J. and J. B. Ames, taken in the afternoon of Dec. 24, 1902, showing an orange-tree bearing its golden fruit and gifts for the holiday season, making a Christmas-tree in keeping with our genial sunny clime, where the children gather wild flowers in midwinter.

Tell Dr. Emma Walker to look just beyond the fence in the picture, and she will see boxes or hives in which bees store honey, which these children consume in unstinted quantities, with plenty of milk and other wholesome food.

Our oldest daughter, Alma Union Ames, who holds the bicycle, is not yet 12; while our baby boy, Wright, is one year old, and but once in the lives of these six children has it been necessary to call a doctor for any of

them. This is not a boast, but to call attention to the fact that so many children are deprived of the chance to develop their minds and bodies as they should by pure food, air, and surroundings. I am the "bee-man" on our place—never have less than 30 colonies. The children all take an interest in them.

The other trees you see in the picture are almonds. The crop is now ripe for this season, and the two families are harvesting them. The men knock them off the trees and the children sort the hulls out after they are brought in on big sheets which were spread under the trees to catch them as they are knocked off. Fig and umbrella trees make the shade for the hullers.

Fruit, berries, alfalfa, and nuts must have water for irrigation to do well here; but with plenty of water every thing does well. My bees gather honey every month in the year; but we do not have such big flows of honey as others tell about, for we have not such big fields of alfalfa.

A large system of irrigation is just completed within two hours' drive of our home, where thousands of acres of alfalfa are being sown.

We, as pioneers in the irrigation business, can recommend this new district as on the right principle for homeseekers. It is called a Wright District, and is very similar to the public-school system.

Very few men care to engage in apiculture in this part of the State, owing partly to the small acreage we have had of alfalfa; but when we have more alfalfa this will be an ideal locality, owing to rains always supplying the intermediate crops of blossoms.

Oakdale, Cal., Aug. 8.

[The picture seems to afford ample proof that honey is a healthful food. If it were more generally used instead of candy and syrups of doubtful source and character, there would be less need of doctors.—ED.]

IS CANDYING A PROOF OF PURITY IN HONEY?

About 200 people within the last five years have learned from me that candying in honey is the proof of purity, and in my last GLEANINGS I learn that it is not. I got my information from supposedly good bee-men, among them being one practical apiarist from Germany. Now, what I want to know is: Did you ever publish a denial of the much-believed theory above mentioned? and if not, why not, seeing that it was no secret to you? And what rule, if any, can I give the curious to go by in buying or using honey to know if it is real? or will they have to have it analyzed, or keep on not knowing what they are buying? What is the cost of having a sample analyzed? Where is the best person to send it to? A. LAWSON.

Discovery, B. C.

[Some years ago I conducted a series of experiments to prove or disprove the statement that glucose would prevent the granulation of honey. Samples of honey were prepared, some containing 10 per cent, some 30, and some 75 of glucose. The ten-per-cent mixture granulated first, and so on in the order of the strength of the glucose; and, last of all, the mixture containing 75 per cent candied, but in a way that was very different from the candying of the pure clover honey. It was streaky in appearance, and looked like ordinary pure honey that is just beginning to candy. I wish with you that it were true that candying were a sure proof of purity; but if we rely on that statement we are going to make matters worse; for glucose-mixers can then (as they are already doing) point to their product and say that it candies as does ours. When such mixtures are put alongside of your honey, you have to compete with what is supposed to be pure honey, at very much less price than you can afford to sell it; and yet you have no means of proving by the candy test that such honey is not pure. The mixers of glucose have been making a strong handle of the claim that only pure honey would granulate; that their honey granulates, *ergo* their honey is pure.

Did we ever publish a denial of that much-believed theory that candying is a proof of purity? Yes, repeatedly; and it is high time that bee-keepers were disabusing their minds of this heresy, as it will do them harm in the manner I have cited.

How can any one know pure honey from adulterated? If he has ever tasted the ordinary commercial glucose a number of times so he knows its brassy twang or flavor, due to the only partial elimination of sulphuric acid used in its manufacture, he can recognize it quite well when mixed anywhere from 25 to 50 per cent with pure honey. I think I can detect it almost every time. I have been put to the test by my friends, and have recognized the adulterated article every time, and I do not claim that my taste is extraordinarily sensitive either. I will admit this, however, that a chemically pure glucose I could not detect, because the sulphuric acid has been entirely eliminated; but the ordinary commercial article, such as is used for adulterating, could be readily told.

Then there is a difference in the way in which the glucose mixtures will candy as compared with pure honey—a difference I can not readily explain.

Is there any other way in which you can enable your grocer to determine whether the honey is glucosed or not? Here is a way, although it may not necessarily prove to be reliable. If honey is put up in small packages by a packing-house that makes a

business of putting up syrups, canned goods, etc., there is quite a strong probability it will be impure, especially if they handle various kinds of syrups labeled with all sorts of fancy names. Try to get your grocer to buy from the producer, or of some honey-buyer or commission house whose reputation is beyond any possible taint of suspicion. There are plenty of these men in the country, and GLEANINGS will be glad to furnish a list of them at any time it is called for. I think we may safely conclude that any honey sold by a commission house that quotes for the bee-papers is pure, *especially so* if the goods have not been repacked or recanned, or put up in bottles.

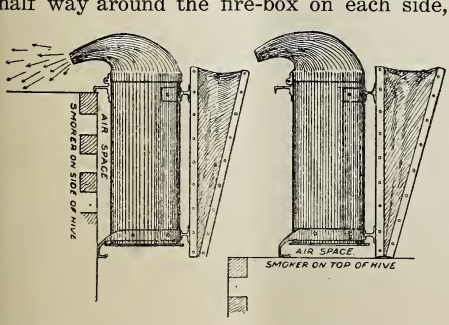
But there is no absolutely reliable way to determine whether honey is pure except by analysis; and even then, unless the chemist has made a specialty of honey he is liable to be misled, and call a pure article adulterated, when in fact it came direct from the flowers to the hive.

Chemists who have made a close study of this question recognize that there are some honeys of a peculiar character, concerning which they dare not make a positive statement as to purity. Again, a honey that is not thoroughly ripe is liable to mislead, but not a chemist who understands the nature of such honey.

Mr. W. A. Selser, No. 10 Vine St., Philadelphia, makes a specialty of analyzing honey at $2.00 a sample. More is generally charged; but as Mr. S. has special facilities for the purpose, and as he makes honey a specialty, he is able to do it at this price.—ED.]

TODD'S SMOKER WITH TWO HIVE-HOOKS.

I wish to present to the readers of GLEANINGS what I consider the ideal smoker. Wm. Muth-Rasmussen, of California, has the hook on the right side, but it is long and clumsy. By the drawing I send, you will see that the same metal which attaches the bellows to the fire-box extends on almost half way around the fire-box on each side,



where it is riveted; then it curves on itself, and at the same time curves outward and downward, forming two legs which hold the fire-box off the hive while lying on top of or hanging on the side.

Now, Mr. Bingham, this is the kind of smoker Mr. Somerford wants; and if you don't put these attachments on that "Banner" smoker you are going to make for him it won't suit, for he is sure to burn his pants the first time he or his pants get in a tight place. What he wants is a smoker that he can set on top of his hives, and that will stay set, and not be toppling over, and one that won't burn his hives, and one that he can drop on the side of the hive with the nozzle pointed in the right direction; and when he can give the bees smoke any moment without having to pick up the smoker nor set it down, you have my order for another provided you put this attachment on. DR. LEVI J. TODD.

Mariel, Cuba.

[The hooks can be attached in the manner you show. I had a smoker fixed up about two years ago, with two hooks like those you show. I thought I was going to like it, but it was not as nice in practice as in theory. Still, if there are those who really want a smoker with double hooks in front we can furnish them, but, of course, at an additional price.

Incidentally it should be remarked that it would be very expensive and difficult to make a top with a curved snout like the one you show. The angle at which the smoke is deflected is wrong too.—ED.]

GROWING ALSIKE CLOVER FOR SEED, ETC.

I have raised alsike clover here for three years. The first year it made three bushels of seed per acre; second year it did no good, on account of drouth in April. This year it grew finely, and would have made a fine hay crop if cut for that. I cut it for seed, and was disappointed to get so little. Nearly all shelled off on to the ground while cutting. When is the best time to cut, and how is it cured for seed so as to get the hay also, as a Michigan man once reported? Do you think I had enough bees? I had 15 good colonies and 8 acres of alsike clover.

F. W. MORGAN.

De Land, Ills., Aug. 24.

[We have not had sufficient experience in growing alsike clover to answer the above questions. Doubtless some of our readers can do so. My impression is, the seed would not have rattled out at time of cutting had it been cut earlier. Fifteen good colonies of bees I should suppose would be ample to fertilize the eight acres so as to furnish a crop of seed.—ED.]

WHICH WAY SHOULD HIVE-ENTRANCES FACE? SHOULD HIVES BE SHADED?

I should like to know what direction beehives should face, and also if they should be in the shade or sun, if it makes any difference. How do you make nine to ten colonies out of one in one season?

GEORGE E. LOWE.

Morocco, Ind., Aug. 17.

[As a general thing, where there are only a few colonies entrances should face the east to get the benefit of the warm sun in the morning and the shade in the afternoon when heat is the greatest; but where there

are a large number of hives in one yard it may be necessary to turn the entrances to the different points of the compass to avoid confusion on the part of the bees. As a general thing the bees should be in the sun up until about 10 o'clock in the morning, and in the shade until 3 in the afternoon. I would, therefore, advise locating the hives under trees where practicable, but not so large as to give too much shade at the wrong time. Apple-trees eight or ten years old make excellent shade.—ED.]

HOLDING HONEY FOR HIGHER PRICE.

I notice much has been said lately in regard to bee-keepers holding back their honey and then rushing it to market later, depressing prices unduly. Now, I wish to say that we common bee-keepers are not wholly to blame for this state of affairs. Last October the writer had about 3000 lbs. of fine white honey, and, not being able to sell near home, he wrote a prominent wholesale dealer in regard to the sale of it, and was given encouragement to ship to him. The honey was sent, and arrived in perfect condition in October; but in March the bulk of it was still unsold, and I have not heard from it since. I have had several chances to sell it since it was sent away. The facts are simply these: The honey-dealer accepted all the shipments he could get, and then could not dispose of them except at a great sacrifice.

J. BLACKMAN.

Nevada, Iowa, Aug. 23, 1904.

[We are aware that more than one cause has led to the low prices and depressed market. For some reason not apparent, the demand for table honey, at least in the East, seems to be confined to the months of August to December. Now, bee-keepers must take the market at its best if they would handle their product satisfactorily. A poor article can be disposed of much better while there is an active demand than later. While the better grades will sell on a downward market, we think it much better to dispose of them also while there is an active demand. Perhaps it would be well for bee-keepers to use their *best* efforts to help the honey-market by the distribution of suitable printed matter, etc., when the slack season comes, immediately after the holidays, and see if the so-called slack season can not be made better. Who can give us some good ideas for this work?—ED.]

NO-DRIP CLEATS SHOULD BE THICKER.

Frequently have I thought of writing you that no-drip cleats should be ¼ inch thick; but so constantly am I reminded how hard it is to make men hear, I have not done so. Perhaps I ought to be thankful you have heard Mr. Burnett. May his words bear good fruit! I might tell something more about shipping-cases. A. B. ANTHONY.

Sterling, Ill.

[Let us hear from others. Bee-keepers and the trade can have what they want if they will only be practically unanimous. Let's hear the other suggestions. We do not mean to turn a deaf ear; but when some say one thing and some another we don't know which way to turn. Yes, tell us more about the shipping-cases, friend A.—ED.]

WILL SHE BE A DRONE-LAYER?

Have you ever had a colony of bees hived on full sheets of foundation, and built up to a good colony, in which the queen would lay drone eggs in worker-cells, and at the same time have lots of worker brood? A neighbor has such a queen. She was hatched this year, and the colony is all her bees. I thought it rather peculiar.

H. E. CROWTHER.

North Kingsville, Ohio.

[This queen may be failing, and eventually may become a drone-layer. Cases of this kind have been on record before, and it is usually advisable to supersede them with something younger and better.—ED.]

WINTERING OUTDOORS IN CHAFF HIVES VS. WINTERING IN A CELLAR WHERE IT IS LIABLE TO FREEZE.

Would you advise me to use a chaff-packed hive, and winter on the stand, or a single-walled hive and remove to a cellar or elsewhere? Our cellar is rather damp, but not wet, and inclined to freeze during winter; also our nights are cool, especially during the spring and fall months. One has told me the moths would drive my bees out if kept in chaff hives. I favor the chaff hives.

I have but one colony, and my aim is to increase them as much as is reasonable the first year, then rear strong colonies for honey production in comb.

Why will bees winter successfully out of doors with the thermometer at zero, and in the cellar it must not reach the freezing-point?

What is the best way to increase my bees?

Sioux Falls, S. D. F. B. HILL.

[In your circumstances I would by all means advise wintering outdoors in chaff hives. A cellar that can not be kept above the freezing-point is a very poor place indeed to winter bees. We have secured the best results here at Medina with a uniform temperature of about 45 degrees. If this can not be readily maintained, better winter outdoors providing the bees are packed good and warm in double-walled chaff hives.

Why bees can stand zero temperature outdoors and not a freezing temperature in a cellar is a query that has often arisen in my own mind, and I think we can account for it almost entirely on the ground of ventilation. Where air is poor, the temperature must not go below forty. When pure and fresh it may go much below, or even down to zero; but if the temperature is liable to remain at the zero point for a month or six weeks outdoors continuously, without a warm spell intervening, the outdoor-packed hives should be protected by windbreaks (better

anyhow) then the hives should be covered with loose snow. But be careful to see that the entrance does not become clogged. Your best way to increase is by shaking swarms artificially, as described in these columns last year and this.—Ed.]

RETURNING SWARMS NOT SATISFACTORY.

Mr. Root:—A few thoughts along the line of returning swarms, and you can make any use of them you have a mind to. I have practiced returning swarms to the parent colony or to other colonies anywhere and everywhere more or less for the past five or six years, and with all kinds of experiences. I have but the one yard, and I think that about 80 to 100 colonies is about all that my location will stand (and sometimes I think that is too many, though I have 115 now), so I hive back and double up anyway to hold them together (and sometimes I don't succeed in holding them where I want them; then I hold where I can), and I have about made up my mind that it is worse than useless to try to return a prime swarm with a laying queen back to a full brood-nest with any degree of certainty of holding it there more than from one to four days. I am well aware that a plan will work sometimes at or near the close of the honey-flow that will not at the beginning or in the midst of the flow; and in some localities that will not in others.

Three years ago I tried, toward the latter end of the season, the plan of taking three or four frames of brood from the old colony. I cut the queen-cells from the frames left, and returned the swarm with the old queen to the colony (on the old stand), and it worked nicely the next season. I tried it again as soon as they commenced swarming; had hived back about ten or twelve swarms that way, and built up seven new colonies with the brood taken away, when all at once they commenced swarming again, and nearly all cast swarms in one day got mixed up together; and before 2 o'clock I had ten swarms all in one bunch, and it took me two days to get them straightened around again so as to know what I was doing; and five out of the seven new colonies built up cast a swarm the fourteenth day after being built, so that scheme was a failure.

As soon as I get what increase I want I kill the old queen, and run the swarm back to the old hive and cut the queen-cells out on the eighth day, which usually settles that colony for the season unless I am careless enough to miss a queen-cell. I say "usually," because it does not always. I think Dr. Miller said in the *American Bee Journal* two or three years ago that he never knew a young queen raised in the parent colony to swarm that season; but I have had three such queens lead off swarms this season, and one of them was less than 30 days old from the cell. The oldest one of the three was just 37 days old. Is the difference in the bees or in the locality?

Jarretts, Minn. S. LaMont.

[I give it up. Perhaps Dr. Miller can answer.—Ed.]

A LESSON IN BEE-ESCAPES.

At the beginning of the clover-honey flow I put a set of narrow extracting-frames on one of our colonies, thinking to get them early into the habit of storing above the brood-nest. I secured that result in short order. Wishing to substitute sections for the frames I raised them up one evening, put on a super of sections, the escape-board, then the frames, and cover over all, intending to run the bees from the frames above on to the sections. About the middle of the forenoon of next day I noticed something wrong about that stand. Investigation showed the extracting-super full of confined bees, hot, and mostly dead — melted combs, dripping honey — in short, a muss. As many as four quarts thus perished, including their laying queen. I cleaned all up as well as I could, allowed them to requeen, and secured some nice sections later on.

The cause of the trouble was too little space between the escape outlet and the board. I found two large drones caught there, cutting off the exit entirely, hence the trouble and loss. The conclusion is obvious, that the escape-board should never act as a trap. Richard Simmons.

Sylvania, Pa.

[We have had reports before of drones clogging the escapes, but the occurrences of this kind are comparatively rare.—Ed.]

H. C. MOREHOUSE AND THE WESTERN DEPARTMENT.

It was with the greatest disappointment I read of the death of H. C. Morehouse, and the resultant stopping of his "Western Department" in GLEANINGS, which especially appealed to me as a Western bee-keeper as being just what I wanted—some way to keep posted locally. By all means, try to continue this department, as I feel that it fills a long-felt want among others as well as with myself. C. Alton.

Paonia, Col., Aug. 17, 1904.

[We have made arrangements to continue the department under J. A. Green, as you will see.—Ed.]

"CHUNK HONEY" AHEAD.

The honey crop around here appears to be a medium one. I have found out since I moved here that all the while I was hauling loads of splendid comb honey, and getting from 12 to 16 cts. per lb. at the stores, there are a good many bee-keepers here who produce "chunk honey" altogether, and retail it at from 16 to 25 cts. per lb. They peddle it out, but say they can sell all they can raise. J. Hammond.

Portsmouth, Ohio, Aug. 23.

[Similar cases have been reported at various times. Chunk honey can often be sold locally and at good prices—better than can be had in No. 1 sections. The comb honey lies are responsible for this.—Ed.[

Therefore shall a man leave his father and his mother, and shall cleave unto his wife; and they shall be one flesh.—GEN. 2:24.

It rather seems, friends, as if my department in this issue were to be largely letters from women; and I have just clipped a little poem from the Cleveland *Leader* that comes in very nicely with my Home talk about divorces. Here it is:

"I AM YOUR WIFE."

Oh! let me lay my head to-night upon your breast,
And close my eyes against the light—I fain would rest.
I'm weary, and the world looks sad; this worldly strife
Turns me to you; and, oh I'm glad to be your wife!
Though friends may fail or turn aside, yet I have you;
And in your love I may abide, for you are true—
My only solace in each grief and in despair.
Your tenderness is my relief: it soothes each care.
If joys of life could alienate this poor weak heart
From yours, then may no pleasure great enough to part
Our sympathies fall to my lot. I'd e'er remain
Bereft of friends, though true or not, just to retain
Your true regard, your presence bright, thro' care and strife;
And, oh! I thank my God to-night I am your wife.

I read the above several times over, and almost every time it brought tears to my eyes. Then I called Mrs. Root and read it to her. I think I will not tell you just what she said about it. But I want to ask, how many married men are there who feel they deserve the very high compliment this loving wife pays to the husband God gave her? and how many married *women* are there who have the faith and love and devotion for the husband God gave, that is expressed in this beautiful poem? Contrast the above picture of married life with the husband and wife who have been contemplating if not discussing the matter of separation.

Another Cleveland daily told us a few days ago that there are now over 2000 divorce cases in Cleveland alone, 900 of which were carried over from last year. Eleven judges are busy with these cases, which come in twice as fast as the courts can "grind them through the hopper" as the papers put it. May the Holy Spirit strive with these poor deluded husbands and wives! and may they have grace from on high to say, "Get thee behind me, Satan." This little poem, with the prayers of God's people following it, ought to do some missionary work where it seems so greatly needed.

SOMETHING MORE ABOUT "THAT MISSING LINE" AND THE HOME PAPER FOR JULY 15.

From the large number of letters received in regard to the above, we select the following. First we have the complete poem.

Mr. Root:—We send you not only the missing line of the stanza but the whole poem.

Goshen, Ind., July 23. MRS. J. W. MARTIN, JR.

THE WELCOME.

Come in the evening or come in the morning,
Come when you're looked for or come without warning;
Kisses and welcome you'll find here before you,
And the oftener you come here the more I'll adore you.
Light is my heart since the day we were plighted,
Red is my cheek that they told me was blighted;
The green of the trees looks far greener than ever,
And the linnets are singing, "True lovers, don't sever!"
I'll pull you sweet flowers to wear if you choose them,
Or, after you've kissed them, they'll lie on my bosom;
I'll fetch from the mountain its breeze to inspire you;
I'll fetch from my fancy a tale that won't tire you.
Oh! your step's like the rain to the summer-vexed farmer,
Or saber and shield to a knight without armor;
I'll sing you sweet songs till the stars rise above me,
Then, wandering, I'll wish you, in silence, to love me.

We'll look through the trees at the cliff and the eyrie,
We'll tread round the rath on the track of the fairy;
We'll look on the stars, and we'll list to the river,
Till you ask of your darling what gift you can give her.
Oh! she'll whisper you, "Love, as unchangeably beaming,
And trust, when in secret most tunefully streaming,
Till the starlight of heaven above us shall quiver,
As our souls flow in one down eternity's river."

The last verse is a repetition of the first. The author was Thomas Davis, an Irish poet and patriot, born in 1814, died in 1846.

AN INVESTMENT THAT IS ALWAYS SAFE.

Mr. Root:—I read your Home Papers for July 15 with admiration and approval; and I needed only an excuse to prompt me to express to you the esteem with which I regard your example and counsel. I found it in the request for a missing line of an old Irish toast, with which you gallantly toast your wife (no doubt your toasts are all drunk with water).

If all husbands and wives would cultivate the self-sacrifice and consideration which you counsel and nobly practice, there would be no need for divorce laws, and homes would be happy, and life partners content. If all persons would consider what small things usually begin and complete the wrecking of their peace and the sundering of friendship's dearest ties, and how insignificant would be the little "giving up" of opinions or wishes in comparison to the great giving up of life's love and happiness, how joyful would be the sacrifice, which, after all, should be called by some other name, as true love *knows* no sacrifice! That which adds tenfold to one's joy should never be considered sacrifice. You and your sweet-tempered Mrs. Root have exemplified this to your own satisfaction I know.

It is worth so many times more than it costs! It bears "compound interest" at a high rate, and is absolutely a safe investment.

What a fine "building and loan" association could be run on this plan—building for life and eternity, with no mortgage on the home, and the interest all coming in instead of being paid out. D. L. CARLETON.

Indianapolis, Ind., July 22.

I noticed in one of the papers that three-fourths of the divorces come about, directly or indirectly, through strong drink. Well, there is another element that sometimes (but not always) comes along *with* strong drink. May God help us in *recognizing* Satan whenever he starts in to do the kind of work described in the following. It is an extract from quite a long letter; but the writer prefers to have his name withheld:

I have heard of some men who pretend to love their mothers to the exclusion of wife and children, but who spend their nights running around town visiting barrooms, and, perhaps, even places of worse repute, and who have formed an attachment for some woman whom they seem to think of continually, and steal off to whenever they can, or take out on some little racket of questionable propriety. Men in the professions and in business nowadays who have lady clerks, type-writers, or other female employees about them, seem to lay plans to make "conquests" among such women. Then, the *telephone* is another means of laying the foundation for worming themselves into the good graces of unwary girls. It is astonishing how easily oily words flow through a telephone wire into the ears, and, too often, into the hearts of silly girls who will allow themselves to be the vessels for such blandishments. Many an otherwise good girl has been ruined for life by listening to the sweet but devilish words whispered into her ears by means of this modern invention for the rapid communication of business.

I ought to know something about Satan's peculiar power in cases like the above; and I would most earnestly urge that every father, mother, brother, sister, or relative of any kind, should keep a careful watch on the

young ladies who are employed in offices, especially where circumstances may render it possible for such things to happen. The writer of the above uses the word "conquests." I am sorry to say that in certain circles married men have in times past even *boasted* of their ability to turn the minds of silly young women. May God be praised, however, that just now public opinion is frowning on every thing of this kind, much as it frowns on men who drink; and this work surely kills both men and women for any thing that is good or useful, fully as much as if not worse than strong drink. God help us, each and all, not only to watch for but to rebuke and reprove every tendency toward such a state of affairs.

Now, here is one letter more that was sent me, just because of my request for that missing line:

Dear Bro. Root:—For years I have been an interested reader of every thing I got hold of that came from your pen or was in any way connected with you or your publications. About eight years ago I sent for the pamphlet, "The New Water Cure." It was a Godsend to me. I mean that literally, for I firmly believe that God ordered that *that* publication should fall into my hands at just that time to preserve my health and possibly my life for my family who needed me so much. I am now, at 53, hale, hearty, and stronger for work than at any time for many years preceding the time I read and practiced the new water cure.

But I did not sit down to write of myself merely. I want to thank you for your Home article for July 15. It touched my heart deeply, and brought tears to my eyes. Your experiences came near my own heart life.

MRS. MARY H. MOORE.

Highland Park, Ill., July 24.

I am glad to tell all of our readers that we still have those internal water-cure tracts to send out for free distribution. The years that have passed since they were printed have, perhaps, indicated that one should not rely too much on this remedy for constipation; but I am satisfied by my own experience that a thorough cleansing of the colon once in three or four weeks, especially when one has had his digestion out of order, is a very great help in preserving the health. We not only need to wash every part of the body externally, most thoroughly, about every so often, but sometimes it is still more necessary that the digestive apparatus be cleansed by using a great lot of pure water as hot as it can be borne comfortably. Taking a big drink of hot water the first thing when you get up in the morning, say a pint, or, still better, a quart, if you can stand it, is another way in which you can greatly aid in accomplishing the same result—washing thoroughly the human form divine, both inside and out, with pure soft water.

CAN A CHRISTIAN CONSISTENTLY TRAVEL WITH AN AUTOMOBILE?

It is all right for you to have an automobile, and I am glad you have one and can enjoy it; but if you ever come to see us, please come on the railroad, and we will send to meet you there. When I read what you said about the editor of the *Farm Journal* I was just bound to speak. I know it is nice for you and your people, but it looks so hard for so many women and children to have to stay at home. There are not many down here in North Carolina, and I am so glad. There was one man who bought one, frightening every thing that saw it. He went back home and frightened his own horse, and caused him to run, and threw his wife out and hurt her. He sent it back, and every one rejoiced. The train is all right, for everybody knows *where* it is; and if the horse is afraid of it they can stay away at train time; but you don't know what time the auto will come, or *where*. If everybody were like you it would be different; but lots of people are like a girl I knew whose mother and aunt were sick, and wanted her to wait on them, but she would not, and said she didn't care who got sick just so she and her brother didn't. They are both dead now—died young, and such a death as she died was awful.

May you live long and write much more, and when God is done with you here on earth may we meet in heaven. God bless and keep you and Mrs. Root.

Arcola, N. C., July 25. SUBSCRIBER.

Dear friend, I thank you for your exceedingly kind letter, and especially for bringing out so prominently the fact that an automobile is a little different from the electric cars or steam-cars. I have thought of this, and prayed over it. I think a little incident of former years may help you to see it, at least somewhat, differently. Just before Mr. Calvert and our oldest daughter were married, they took a buggy-ride to see some of our relatives. They had a young horse that imagined he was going to be killed whenever a bicycle was even in sight. Their buggy was smashed up, they had to hire a rig to get home, and we sent a team to pick up the broken pieces of the vehicle. That was about twenty years ago, and before I had learned to ride a wheel. Of course, all Rootville was up in arms against this innovation on our old ways and customs. We would have sued the rider of the wheel for damages, perhaps, if we could, and we all loudly denounced bicycle-riders in general. A few months later, the whole of the Root family had become enthusiasts on the bicycle, your humble servant included. I confess it is a little surprising, even to myself, to realize that at the present time there is not a horse anywhere that pays any attention to a bicycle. Any one who would now declare bicycles should not be allowed on public highways would be laughed at. Now, is it not true, dear sister, that bicycles did make lots of trouble? and for a time it almost seemed as if it were not right and Christianlike to encourage their use because of runaways, etc. But just now this world could hardly get along without them; and horses, young and old, recognize them as a necessary part in the transportation of this great busy world of ours. Yesterday it seemed necessary for me to make half a dozen trips or more through our town in different directions; and as it was the principal day of our county fair the streets were full of vehicles. I ran among them in every direction without any trouble and without meeting any protest. In just one year not only the horses of our town, but well out into the country, have "caught on" to the idea that *some* wagons go all around everywhere without any horse to pull them.

Very much can be done by the owners of horses in the way of educating them to understand, and not object to the presence of automobiles. And I fear, my good friend, you are making a mistake in rejoicing that there are no more automobiles in your neighborhood. For a little while we shall all have to take great care, until this new creation is introduced; and perhaps it is the better way to go to the extreme of taking unnecessary care until this new method of locomotion adjusts itself to the surroundings. The advent of the electric car has caused many deaths; but, notwithstanding, the amount of good they do to humanity so far overbalances the evil that I have not yet heard of any town or city where they even talk about pulling up the rails and stopping the traffic. May God give us wisdom, and kind and neighborly feelings, while we *all* work together to avoid accidents.

A man who is pretty well acquainted with horses said he felt sure almost any horse could be trained in just a couple of days to overcome his fear of the auto; and I see by the auto magazines that hundreds of farmers tied their horses beside the road when that great string of autos passed on the way from New York to St. Louis. It was not only people who lived right along the line, but horses were brought from away back in the country. You see, the idea was that, even if they were disposed to be frightened when the first one came along, by the time seventy or eighty had passed it would be something of an old story. Now, almost daily, horse-owners bring their horses right up near my machine; and I know by experience it makes a very great difference if the man in the auto will talk to the horse, and say "soothing words" to him as one of the auto journals expressed it. When the horse sees that a live man has charge of the machine, and especially when he hears the man's voice, he quickly gains confidence. One of our own horses was at first disposed to be frightened; but now I pass right under their noses, and they pay no more attention to it than they would to a horse and buggy.

There is another point: When horses have not been worked for some time, and especially where they have been kept in a stable, when first taken out they are frisky, and seem to be hunting up some excuse to be frightened or to make believe they are frightened. They do it in a sort of playfulness. In such cases a firm hold on the lines, and perhaps a little judicious use of the whip, would cause them to give up their antics.

AUTOMOBILES ON COUNTRY ROADS.

Since the above was dictated I find that my good friend T. B. Terry has taken up the matter in the *Practical Farmer* for Sept. 10. I extract the following from his article:

It is to us more than "a difference of opinion in regard to how a man shall travel," my dear Mr. Root. My wife has a good horse and carriage, and has been in the habit of driving anywhere about. But now she scarcely goes out at all, and when she does it is in constant terror for fear an auto will come along. There are many thousands of farmers' wives who suffer in the same way. I know this from word of mouth and from letters from different parts of the country where autos are used. To be sure, laws have been passed in Ohio to regulate the matter in a measure, but what do they amount to when one gets into trouble and the auto is gone before you can even look at it? We farmers furnish the land and keep up our roads. We do not object to any use of them that does not materially interfere with our safety and comfort. But do you think it morally right that our women in many cases must almost give up using the highways, in order that a comparatively few wealthy men from cities and large towns may take pleasure on them with horse-scaring machines? You do not seem to think of our side of the question, only of your legal rights. Kindly put yourself, and your wife and little grandchildren, in our places. It is very different in cities, where so much is going on and horses see such things so frequently that they soon become accustomed to them, and where there is police protection against high speed and the drivers can readily be caught. The "difference of opinion," my good friend, is as to whether many shall suffer in order that a few may take pleasure.

Many thanks, dear friend T., for presenting the matter not only fairly but so kindly as you do. If I said it was a matter of difference of opinion, I shall have to beg pardon, for it is more than that. Our good friend Atkinson, of the *Farm Journal*, frankly admits that automobiles are on the increase, and I believe you take the same thing for granted. Now, you two friends of mine, standing nearly at the head of two great agricultural journals, usually not only recognize all that is going on in the world, but I believe you generally take also a wise look in regard to what is coming. Is it not possible that Mrs. Terry, like Mrs. Root, will very soon ride in an automobile, because it is so much more convenient and may be cheaper than to ride behind a horse? My first good bicycle cost $150. A better one can now be purchased for a good deal less than $50 without the $100. With the tremendous manufacturing industry that is now started in automobiles, the price will come down rapidly. We have just received notice from one of the largest firms in the land, announcing a big reduction in price for the coming year. Other firms will follow. Now, friends Terry and Atkinson, what will you say when there are more automobiles than horses, providing the users of the automobiles, as a matter of course, contribute more to the roads than those who drive horses? I hardly need remind you that keeping roads in good repair for automobiles will be a small matter compared with the expense of making good the damage done by the hoofs of horses, and by iron wheels. Of course, I grant it is a little hard on the women and children just now; but such has been the case with the advent of every change in travel. Steam and electric cars have been a hindrance and annoyance to horse vehicles from the biginning up; but we all consented to put up with it. Friend Terry admits that the horses get used to them in towns. How long will it take to educate all the horses in the land in a like manner?* Nothing like

*My good friend T., you can take that horse your wife drives, and teach him in a very little time so he will pay no more attention to the horseless carriage than to carriages drawn by horses; and may be your good wife (if she sets about it with the right kind of *faith*) will educate the horse quicker than you can. I was going to offer to go over your way and show you how easily it can

the length of time it required for them to become acquainted with bicycles. The present great need is just now a Christian spirit, both with those who drive autos and horses. Yesterday a man with a one-horse wagon positively refused to give me an inch of the road. I turned out of the ruts and into the mudholes, and stalled my engine. I felt sorry that he should exhibit such a spirit, but I was not angry at all. I was so busy managing my machine I did not have a chance to say even a kind word to him. I may not be *exactly* right in this matter; but I am sure the great public, especially the progressive public, will agree that I am pretty nearly right. Of course, the future will have to decide largely whether automobiles are soon to outnumber horses or not. At one time it was feared by liverymen and others who used horses that electric cars would make horses a drug in the market; but just now the prices of horses are ruling about as high as ever; and is it not altogether likely, friends, that this world of ours is large enough for all of us, without very much jostling or very much reason for an unchristianlike spirit? May the kind Father help us to preserve a Christianlike spirit while we are receiving these great and wondrous gifts from his loving hand so thick and so fast.

SOMETHING FROM A MAN WHO DOES NOT OWN NOR RUN AN AUTOMOBILE.

Now I think it no more than fair to give the following from our old friend A. T. Cook, as it comes to hand just as this goes to the printers:

Friend Root:—Many thanks for your auto article in GLEANINGS; thanks, also, for your writing to the *Farm Journal* as you did. I have none, but my niece has one, and so has my nephew, both Olds Runabouts. My niece has driven hers 2286 miles since May 15. She does the entire running, and takes care of it herself, and has had no accident of any sort. She has not spared it, but has driven it over bad roads and rocky mountain climbs.

Please give us more auto articles. There are lots of autos about here. Five are owned in my own short village street, and only three horses. Quite a number of farmers already have autos. A. T. COOK.

Hyde Park, N. Y., Sept. 5.

SUNDAY NEWSPAPERS AND RECENT INVENTIONS.

A few weeks ago one of our relatives handed me a Sunday daily published in Dayton, O. They did not give it to me on Sunday, because they felt sure, I presume, I would not read it, even if it was "all about flying-machines." I think I got hold of it on Monday morning. Well, this daily made the statement that *91* different air-ships were already on the ground at the St. Louis exposition, preparing to compete for the prize of 100,000. They even went so far as to give pictures and names of the more prominent ones, giving the exact date when each different machine came on the ground and was entered for the prize. As nearly as I can make out from the pictures and description they were all or nearly all kept in the air by means of a gas-balloon, and so of course they did not interest me very much. But at the close of that remarkable scientific(?) paper there was a statement somewhat like this: "Last, but not least, is the willow-twig flying-machine that comes from somewhere out west. It is made of light willow sticks and canvas, but flies like a bird, without any gas-bag to sustain it." Well, Mr. Calvert returned from the St. Louis exposition to-day, Aug. 25. I requested him, when he left home, to find out about the flying-machines. His report is that, although there is a big inclosure to be devoted to this department of science, there is at present *not a single flying-machine* on the grounds. Is this a fair illustration of the truthfulness of the average city Sunday daily? Are there people in our land who are willing to swap their dimes and nickels for this sort of news, and to support in idleness a systematic *gang* of *liars?* One does not need to suggest it is this class that has damaged bee-keeping by similar stories about the factories where they manufacture comb honey. Will not all honest men and women join me in shutting down on this sort of work? Tell the newsboys and tell the publishers that you can not encourage falsehoods in the printing-press any more than you can encourage lies from individuals; and I for one feel as if it would be a good thing to refuse either to buy or read Sunday papers altogether.

THE "ROASTED-CHESTNUT" POTATO.

On our Medina clay soil this potato that was hollow, every one, last season, is now not hollow at all, at least I have not found a hollow one. But the potatoes are not nearly done growing—in fact, they are the greenest and thriftiest of any variety of the 20 different kinds we have on our test-grounds. Up to this date, Sept. 7, they have not shown the least tendency to blight or die down. There is only one other variety that comes anywhere near them, and that is our old friend the Craig. Now, all this is very cheering; but in losing the hollows we have also lost the fine quality, for the quality at this stage of growth is just fair. The potato may get to be hard and brittle and of fine quality, as they were last year, when they come to ripen up; and if they do keep the quality up to that of last year, I shall place it at the head of all other potatoes as to quality, and power to resist blight. The yield so far is fair—perhaps as good as Carman No. 3. Our other potatoes have blighted more or less; in fact, the vines are dead and dry, with only few exceptions. The King of Michigan is, perhaps, ahead of any in quality, and in smoothness and beauty of shape, with fair yield.

be done. But it would be a little ridiculous for me to undertake to teach a veteran like you any thing about horses. My faith, however, is perhaps greater than yours, because I see so many horses that were fractious at first get to view the horseless vehicle with utter indifference; and now we brush right under their very noses just exactly as you would with a vehicle drawn by horses. Yesterday I was invited to take a ride in a 20-horse-power Winton. The chauffeur who managed it used exactly the same tactics I do, and he passed vehicle after vehicle out in the country without troubling or incommoding anybody to any extent worth mentioning.